

REMARKS

Upon entry of the instant amendment, claims 8-10 remain pending in the above-identified application and stand ready for further action on the merits.

In this Amendment, claims 8-9 have been amended and new claim 10 has been added.

Support for amended claim 8 can be found at page 25, line 23 to page 46, line 4 of the present specification. Support for amended claim 9 can be found at page 31, lines 13-15 of the specification. New claim 10 is added by limiting a carbonyl compound to a carboxylic acid and limiting the used amount of hydrogen peroxide in the previous claim 9 based on the description at page 31, lines 15-18 of the specification.

Accordingly, the present amendments to the claims do not introduce new matter into the application as originally filed. As such entry of the instant amendment and favorable action on the merits is earnestly solicited at present.

Claim Rejections under 35 U.S.C. § 103(a)

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over **Kuroda JP ‘579** (JP 11-349579) in view of **Schulz US ‘956** (US 6,090,956).

Claims 4 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over **Kuroda JP ‘579** in view of **Schulz US ‘956** as applied to claims 1-6, and further in view of **Venturello US ‘276** (US 4,562,276).

Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over **Kuroda JP ‘579** in view of **Schulz US ‘956** in view of **Hancock US ‘032** (US 5,367,032).

Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over **Kuroda JP ‘579** in view of **Schulz US ‘956** as applied to claims 1-6, and further in view of **Venturello EP ‘976** (EP 0 606 976).

Reconsideration and withdraw of each of the above rejections is respectfully requested based on the following considerations.

Legal Standard for Determining Prima Facie Obviousness

M.P.E.P. § 2141 sets forth the guidelines in determining obviousness. First, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), which has provided the controlling framework for an obviousness analysis. The four *Graham* factors are:

- (a) determining the scope and content of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating any evidence of secondary considerations.

Graham v. John Deere, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

Second, the Examiner has to provide some rationale for determining obviousness. MPEP § 2143 sets forth some rationales that were established in the recent decision of *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). Exemplary rationales that may support a conclusion of obviousness include:

- (a) *combining prior art elements according to known methods to yield predictable results;*
- (b) *simple substitution of one known element for another to obtain predictable results;*
- (c) *use of known technique to improve similar devices (methods, or products) in the same way;*
- (d) *applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;*

- (e) *“obvious to try” – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success*
- (f) *known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;*
- (g) *some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.*

As the M.P.E.P. directs, all claim limitations must be considered in view of the cited prior art in order to establish a *prima facie* case of obviousness. *See* M.P.E.P. § 2143.03.

Incorporation by Reference of Earlier filed Comments

Applicants wish to incorporate by reference comments set forth at pages 4-8 of the earlier filed reply of November 12, 2009, inasmuch as such remarks remain relevant to a consideration of the patentability of each of pending claims 8-10 over the cited art of record. Said remarks are accordingly incorporated herein by reference, in their entirety.

Rejections of Prior Claims 1-6 Rendered Moot

The outstanding rejections of prior claims 1-6 have been rendered moot based on the cancellation of such claims in the earlier filed reply of November 12, 2009.

Distinctions over the Cited Art

Amended Claim 8

The process claimed in the presently amended claim 8 is a process for producing a β -hydroxyhydroperoxide compound or a carbonyl compound from an olefin, and the carbonyl compound is produced by oxidatively breaking a carbon-carbon bond of the olefin.

Kuroda JP '579 and **Schultz US '956** teach a process for producing an epoxy compound from an olefin.

Hancock US '032 discloses a process for producing an epoxy compound from an epoxy compound. However, in the process disclosed by **Hancock US '032**, a carbonyl compound is produced by isomerization of an epoxy compound and it is not produced by oxidatively breaking a carbon-carbon bond of the olefin. That is, the process disclosed by **Hancock US '032** is quite different from that of the present process as claimed in claim 8. Further, **Hancock US '032** does not suggest a process for producing a carbonyl compound via oxidatively breaking a carbon-carbon bond of the olefin.

Furthermore, **Kuroda JP '579** and **Schultz US '956** do not disclose or suggest a process for producing a β -hydroxyhydroperoxide compound or a carbonyl compound.

Therefore, it is submitted that one of ordinary skill in the art would not be motivated to combine the catalyst of **Kuroda JP '579** with the process of **Hancock US '032**, and that it necessarily follows that the presently claimed invention of claim 8 is not obvious over the applied art. In particular, it is noted that no reason or rationale is provided in the cited art that would allow one of ordinary skill in the art to arrive at the instant invention as claimed in claim 8. Any contentions of the USPTO to the contrary must be reconsidered at present.

Amended Claim 9

The process claimed in the present claim 9 is a process for producing a carbonyl compound from a primary alcohol and the carbonyl compound is an aldehyde and the amount of hydrogen peroxide to be used is 0.9 to 1.5 moles per 1 mole of the primary alcohol.

Kuroda JP '579 and **Schultz US '956** teach a process for producing an epoxy compound from an olefin. The starting material of **Kuroda JP '579** and **Schultz US '956** is quite different from the starting material of the present invention as claimed in claim 9.

Venturello EP '976 also discloses a process for producing a carbonyl-containing compound from an alcohol. However, the starting material of **Venturello EP '976** is not a primary alcohol, but is instead a secondary alcohol. That is, the process disclosed **Venturello EP '976** is quite different from that of the present process claimed in claim 9. Further, **Venturello EP '976** does not disclose or suggest a process using a primary alcohol as a starting material.

Therefore, it is submitted that one of ordinary skill in the art would not be motivated to combine the catalyst of **Kuroda JP '579** with the process of **Venturello EP '976**, and that it necessarily follows that the presently claimed invention of claim 9 is not obvious over the applied art. In particular, it is noted that no reason or rationale is provided in the cited art that would allow one of ordinary skill in the art to arrive at the instant invention as claimed in claim 9. Any contentions of the USPTO to the contrary must be reconsidered at present.

Newly Added Claim 10

The process claimed in the present claim 10 is a process for producing a carbonyl compound from a primary alcohol and the carbonyl compound is a carboxylic acid and the amount of hydrogen peroxide to be used is 1.5 moles or more per 1 mole of the primary alcohol.

Kuroda JP '579 and **Schultz US '956** teach a process for producing an epoxy compound from an olefin. However, they do not disclose or suggest a process for producing a carboxylic acid.

Venturello EP '976 discloses a process for producing a carbonyl-containing compound from an alcohol. However, the starting material of **Venturello EP '976** is not a primary alcohol, but is instead a secondary alcohol. That is, the process disclosed **Venturello EP '976** is quite different from that of the present process claimed in claim 10. Further, **Venturello EP '976** does not disclose or suggest a process using a primary alcohol as a starting material.

Therefore, it is submitted that one of ordinary skill in the art would not be motivated to combine the catalyst of **Kuroda JP '579** with the process of **Venturello EP '976**, and that it necessarily follows that the present claimed invention of claim 10 is novel and it is not obvious over the cited art of record.

In particular, it is noted that the cited art fails to teach or provide for each of the limitations recited in pending claim 10, and further, no reason or rationale is provided in the cited art that would allow one of ordinary skill in the art to arrive at the instant invention as claimed in claim 10. Any contentions of the USPTO to the contrary must be reconsidered at present.

Conclusion

Based upon the amendments and remarks presented herein, the Examiner is respectfully requested to issue a Notice of Allowance clearly indicating that each of the pending claims 8-10 is allowable under the provisions of Title 35 of the United States Code.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John W. Bailey, Reg. No. 32,881 at

the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: January 11, 2010

Respectfully submitted,

By 

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